

REMARKS

Applicants thank the Examiner for having a telephone conversation with Applicants' representative on December 5, 2005, to discuss the invention and the final Office Action. As the Examiner suggested, Applicants have amended claims 1, 10, and 19 to more appropriately define the invention. Applicants have also amended claims 5 and 14-16 to improve form. Claims 1-19 remain pending.

In the final Office Action, the Examiner maintained the rejection of claims 1-19¹ under 35 U.S.C. § 102(e) as being anticipated by Hamada et al. (U.S. Patent No. 6,329,269) ("Hamada et al.").

Applicants previously argued that "crystallizing the layer of amorphous silicon to form a layer of polysilicon" and "treating the layer of polysilicon to change the properties of a surface of the layer of polysilicon," as recited in Claim 1, are two separate steps, and thus Hamada et al.'s teaching of a single step of a heat treatment in an oxygen environment clearly cannot anticipate these two separate steps. See Amendment filed on August 4, 2005, pages 7-9.

The Examiner disagreed with Applicants. In particular, the Examiner stated that

The claims as written simply do not require sequential steps, as evidenced by the absence of language such as "following", which would indicate a sequence. The claims merely require the presence of the aforementioned steps.

Final Office Action, p. 4. During the telephone conversation with Applicants' representative on December 5, 2005, the Examiner advised that if Applicants amend the claims to recite the above-noted two steps as sequential steps using such terms as

¹ The Examiner rejected claims 1-20 in the final Office Action. Office Action at 2. However, the instant application only contains claims 1-19.

“subsequently,” “after,” etc., such amendment should overcome the rejection of claims 1-19 under 35 U.S.C. § 102(e).

Applicants have amended independent claims 1, 10, and 19 as suggested by the Examiner, and submit that amended claims 1, 10, and 19 are allowable over Hamada et al. For example, amended claim 1 recites, inter alia, “crystallizing the layer of amorphous silicon to form a layer of polysilicon; [and] treating the layer of polysilicon to change the properties of a surface of the layer of polysilicon after the layer of polysilicon is formed.” In contrast, Hamada et al. disclosed a method to heat an amorphous semiconductor film in an oxygen environment (either an atmosphere containing oxygen element or a wet oxygen environment) to “crystallize said amorphous semiconductor film to be a polycrystalline film and simultaneously form an oxide film on said surface.” Claim 1 of Hamada et al. (emphasis added); see also claims 4, 7, and 8. In the final Office Action, the Examiner also recognized that “Hamada et al discloses the simultaneous crystallization of the amorphous silicon film and formation of a silicon oxide film on the formed polycrystalline film.” Final Office Actions, p. 3, emphasis added. Therefore, Hamada et al. fails to teach or suggest each and every element of amended claim 1, and actually teaches away from amended claim 1, which requires that “treating the layer of polysilicon to change the properties of a surface of the layer of polysilicon [be performed] after the layer of polysilicon is formed.” Therefore, amended independent claim 1 is allowable over Hamada et al.

Similarly, amended independent claim 10 recites, inter alia, “forming a polysilicon layer by crystallizing the amorphous silicon layer; [and] changing properties of a surface of the polysilicon layer after the polysilicon layer is formed.” Amended independent

claim 19 recites, inter alia, "forming a polysilicon layer using the amorphous layer; [and] oxidizing a surface of the polysilicon layer after the polysilicon layer is formed." For reasons already set forth above with regard to claim 1, claims 10 and 19 are allowable over Hamada et al.

Claims 2-9 and 11-18 respectively depend from independent claims 1 and 10, and are also patentable at least because of their dependence from an allowable base claim.


In view of the foregoing remarks, Applicants respectfully request the reconsideration and reexamination of this application and the timely allowance of the pending claims 1-19.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By: 
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